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ABSTRACT

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THE ONLINE CATALOG AND PATRON SEARCH STRATEGIES AT GEORGIA STATE UNIVERSITY

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ABSTRACT

In September, 1985, an online catalog was introduced at Georgia State University. A study was conducted at Pullen Library to prepare for bibliographic instruction for catalog use. Fifty patrons were observed and interviewed in the summer of 1985 as they used the library's card and/or COM catalogs. Patrons were observed to determine the kind and amount of information needed, the search strategies employed, and the results obtained. The researchers then applied these search strategies to the online catalog to discover the benefits and disadvantages of an online system and to modify search strategies to maximize use of the online catalog. The most useful features of the online catalog, as discovered in this study, included: searching by keyword/term; using Boolean operators to link terms; limiting search results by date of publication; type of material or language; and searching by class number.

The Online Catalog and Patron Search Strategies

at Georgia State University

In September 1985, the Georgia State University Libraries introduced an online public access catalog known locally as OLLI (On-line Library Information). The catalog was developed by Mankato State University and marketed by Sperry Corporation under the name PALS (Project for Automated Library Systems). OLLI contains records for the entire Law Library collection and the bibliographic records for more than half the 900,000 volumes in Pullen's central library. It replaces the libraries' COM catalogs and will be used with Pullen's card catalog until all the library's records have been converted to machine-readable form. OLLI runs on the university's UNIVAC 1100 and can be accessed by terminals within and outside the libraries.

The online catalog is a command-driven system with the basic search keys Author (AU), Title (TI), Author/Title (CO), Subject (SU), and Call Number (CA). [Figure 1] OLLI also possesses the capability of term searching so that patrons may use natural language terms together with search keys to search in Corporate Authors (AT), Titles (TT), Subjects (ST), or in all three fields (TE).

Patrons may truncate word stems with a pound sign (#) so that subject, author, and title fields with the word stem are retrieved. A space and pound sign after a Library of Congress subject heading will retrieve records under the heading and all subdivisions. Patrons may display records retrieved in formats of varying lengths. The default display is the medium-length format which includes subject tracings. [Figure 2] Records may be saved as sets and combined, and patrons may limit searches by date of publication, format,

language, or by using the Boolean operators "and, or, not" between terms. Subject, author, title, and call number files may be browsed. The Pullen and Law catalogs can be accessed and searched separately or together.

In Spring 1985, the libraries began testing the catalog and planning for its introduction. A preview was held for patrons, and users' reactions were noted. As a result, four Pullen librarians decided to study patron search strategies in the library's present catalogs--a frozen card catalog and a current COM (computer output microfiche) catalog--to develop strategies for teaching effective use of the online catalog.

Fifty patrons were observed and interviewed as they used one or both catalogs. Two questionnaires were developed: a short questionnaire with demographic questions and prompts for use in the patron interview and a longer questionnaire for codifying the interview results. Relevant catalog use and online catalog studies were used to develop the questionnaires.[1] The patrons were observed to determine the kind and amount of information needed, the search strategies employed and the results obtained. The researchers then applied these search strategies to the online catalog to discover the benefits and disadvantages of an online system, and to develop ways of modifying patron strategies to improve the amount and quality of material found.

Patrons were selected at different time periods as they approached either catalog. The patrons sampled were fairly evenly distributed by sex with 22 males and 28 females responding. Most were in the 22-35 age group (35 respondents), with 9 patrons over 35 and 6 under 21. The sample consisted of 21 undergraduates, 18 graduate students and 10 patrons not affiliated with the university.

The 50 searches included 8 title searches, 2 searches with title used also

as subject, 13 author searches, 3 searches with an author used to begin a subject search and 23 subject searches. The large number of subject searches (54%) contradicts the findings of a University of Michigan catalog use study which found most patrons searching by known item[2] but agrees with a 1983 study on patron use of the two Georgia State University catalogs which found that 62.8% of the 648 respondents searched often and 26.7% searched sometimes by subject.[3]

Most patrons found information in the catalogs with 15 finding all, 11 finding most, 12 finding some, 4 finding less and 1 finding more information than was needed. Eight patrons found nothing in the catalogs. Most patrons expressed satisfaction with their searches with 8 patrons very satisfied, 34 satisfied and 3 dissatisfied with their results.

The researchers noted several trends in patron search techniques. It was interesting that only one patron consulted the Library of Congress Subject Headings with a reference librarian in advance, but at least 24 subject headings searched were either valid subject headings or keyword headings present in the catalogs. Most patrons were able to find something under the term searched, even if only a see reference or a title beginning with the word.

In a 1983 study of subject searches in online catalogs, Karen Markey found that patrons tended to search under terminology other than the expressed topic given at the beginning of the search.[4] This was often the case in the subject searches in this study. Sometimes the expressed terminology was more specific than the terminology used to search the catalog.

A patron seeking information to compare the Wagner Act with the Taft-Hartley Act, for example, stated that he wanted materials on labor law, but began his search under LABOR ECONOMICS. A term search under WAGNER ACT

and TAFT-HARTLEY ACT in OLLI resulted in 6 records under the former and 13 records under the latter, which could then be used to determine the correct corporate and subject headings for the laws.

A patron interested in the deregulation of savings and loan institutions, and specifically in periodicals containing current information on Federal Home Loan Banks, began her search under headings beginning with SAVINGS, LOANS, and BANKS. A term search in OLLI--TE HOME FEDERAL LOAN BANK#--yielded 42 entries. When the results were limited to serials (FO SE) continuing to publish after 1979 (GT 1979), the results were reduced to 20 records. [Figure 3]

We learned, in these and other instances, to encourage people to use specific terminology that most clearly approximated the information required. If insufficient information is found, subject tracings and/or broader terms can expand the search.

Markey also made the point that the comfort and familiarity of manual catalogs are lost with online catalogs.[5] We found that patrons could be confronted with large amounts of material in the COM and card catalogs and they would comfortably browse, as in the case of a patron looking under SCIENCE in the card catalog for articles relating to science and juvenile. The patron was not disconcerted by the large number of cards available for browsing. When SCIENCE is searched by term in OLLI, 5944 records are retrieved. [Figure 4] The computer prompts the patron to limit his search to reduce the results or to display the first 20 records. The patron has lost the ability to scan and browse randomly without a conscious decision and a specific command to the computer.

In at least 13 subject and 1 author search, patrons scanned records for call numbers, intending to browse by call number in the stacks. A search that

results in more than one record in OLLI, however, presents a truncated display which shows date of publication, title and author but not call number. [Figure 5] Individual records must be displayed through a separate command to find a call number for browsing. This adds a step that was not necessary in the manual catalogs. Call numbers may be searched by class number in OLLI, however, to show how many items are contained in a specific class number. In one search, a patron scanned the subject heading ADVERTISING in the COM for a predominant call number. The subject was searched later in OLLI under the command SU ADVERTISING #. [Figure 6] 937 records were retrieved and a class number HF 5823 was selected. HF 5823 was searched in the call number index and 243 records were retrieved, indicating that this call number would yield large results when physically browsed. Patrons may browse call number ranges in OLLI, but the circulation status of items is not currently available online.

Most patrons with known authors and titles preferred to search by author, although the patron often had only a last name or last name and first initial. This finding agrees with other catalog use studies. The researchers found that author and known title searches could be performed most expediently on OLLI by the combination author/title search (CO), which searches the author's last name and the first word of the title. This search is useful when the author's first name is unavailable. In 6 cases, however, the title was permutated or partially incorrect. The incorrect word was often the first word as in the case of the patron seaching under CHILD, JULIA for THE ART OF FRENCH COOKING and discovering that the correct title was actually Mastering the Art of French Cooking. [Figure 7] The title was easily discovered in OLLI and in the COM through an author search, but the combination search CO CHILD/ART produced nothing.

See or see also references were used in at least 10 subject searches. In some cases, natural language terms led the patron through see references to valid subject headings. In other cases see also references were used to expand or modify manual catalog searches. OLLI does not include see or see also references. The ability to do term searches compensates somewhat for the lack of cross references. A partron looking under BURIED TREASURE in the COM was referred by a see reference to TREASURE-TROVE. When BURIED TREASURE was searched in OLLI, one record was retrieved with the subject tracing TREASURE-TROVE, which could then be searched for additional records. [Figure 8]

OLLI works particularly well for subject searches in which the preferred spelling of a term differs from the spelling in the valid subject heading. A patron looking in the card and COM catalogs for both titles and subjects beginning with the word BURNOUT found only six title entries in the COM. A term search on OLLI--TE BURNOUT--retrieved 18 entries, which included all but one of the entries under the valid subject heading BURN OUT (PSYCHOLOGY) and 4 more records than the subject heading provided.

Patrons can expand searches by creating and combining sets of results from synonymous or broader terms and by use of the OR command in a term search, for example TE JOB# OR OCCUPATION#. This is a method of approximating see also references that does not necessarily provide access to the controlled Library of Congress vocabulary.

Date of publication was used to select individual items 12 times in subject and 4 times in author searches. At least 3 patrons were looking for serials, and one patron consciously limited results to titles in English. The ability to limit search results by date of publication, format, and language should therefore prove useful.

Our study enabled us to identify features of the catalog which should

improve the kinds and amount of material found by patrons. The ability to search in natural language is a powerful tool that enables patrons to find materials specifically relevant to their needs. The truncation symbol, which allows patrons to find word variants such as plurals or adjectival forms, augments the benefits of natural language searching. Tracings with valid subject and corporate author headings can be used as additional access points if more material is needed.

Browsing by call number is an apparently comfortable method of finding books in a subject area for many patrons. The ability to search by class number to determine how much material is found under each number can insure that a patron will physically browse a shelf area with significant holdings.

Several librarians noted at an OLLI preview that some patrons were nonplussed when a subject search retrieved large amounts of material. Many patrons eliminate materials by date of publication when scanning cards and COM entries. The ability to limit by date is a time- and labor-saving feature that should be stressed in bibliographic instruction. Patrons should find the ability to limit by language and type of material helpful as well.

Bibliographic instruction should also stress the use of the Boolean operators "and, or, not" to expand or limit searches. Patrons should be taught to save and combine sets for subject searches that compare more than one concept or entity or look at different aspects of the same entity.

Finally, patrons should be encouraged to use the truncation symbol, following a space, at the end of valid subject headings to insure that subdivisions, which might otherwise be missed, are retrieved for scanning. If too much material is retrieved, patrons should browse the relevant subject heading to select subdivisions.

In all cases, the researchers found OLLI to be faster and more efficient

in retrieving information than the manual catalogs. Major advantages of the online catalog include the help screens and the prompts that OLLI provides when another command is needed. The ability to interact with the catalog to modify and refine searches should finally make the catalog the library's pre-eminent and most valuable information tool.

REFERENCES

[1]David Anderson et al., "Patron Use and Understanding of the COM and Card Catalogs at Georgia State University" in Academic Libraries: Myths and Realities: Proceedings of the Third National Conference of the Association of College and Research Libraries (Chicago: ACRL, 1984), 207-214; F.W. Lancaster, "Studies of Catalog Use," in The Measurement and Evaluation of Library Services (Washington, D.C.: Information Resources Press, 1977), 19-72; Joseph R. Matthews, Gary S. Lawrence and Douglas K. Ferguson, eds., Using Online Catalogs: a Nationwide Survey: a Report of a Study Sponsored by the Council on Library Resources (New York: Neal-Schuman, 1983); Karen Markey, The Process of Subject Searching in the Library Catalog: Final Report of the Subject Access Research Project (Bethesda, Md.: ERIC Document Reproduction Service, ED 231 390, 1983).

[2]Lancaster, "Studies of Catalog Use," 30.

[3]Anderson, "COM and Card Catalogs," 213.

[4]Markey, Subject Searching, 79-80.

[5]Ibid., 111-12.

Figure 1.

AU CLARKE ARTHUR

TI RED BADGE OF COURAGE

CO CLARKE 20 10

SU DATA BASE MANAGEMENT

CA QA76.5

AT GEORGIA LIBRARY

TI SEARCH EXCELLENCE

ST ATLANTA

TE BEACH BOYS

SU DATA BASE MANAGEMENT #

Figure 2.

Screen 001 of 001 Record 0007 of 0007 PUL
LOCTN: GENERAL COLLECTION Z674 .D47 1984
AUTHR: Dewey, Patrick R., 1949-
TITLE: Public access microcomputers : a handbook for librarians / by Patrick R. Dewey.
PUBLR: White Plains, NY : Knowledge Industry Publications, c1984.
DESCR: v, 151 p. : ill. ; 29 cm.
SUBJT: Computer literacy.
SUBJT: Library science--Technological innovations.
SUBJT: Libraries--Automation.
SUBJT: Microcomputers--Library applications.
SUBJT: Information service.

Figure 3.

```
te home federal loan bank#

     901 RECORD MATCHES AFTER TERM HOME
      46 RECORD MATCHES AFTER TERM FEDERAL
      43 RECORD MATCHES AFTER TERM LOAN
      42 RECORDS MATCHED THE SEARCH
     TYPE DI 1-20 TO DISPLAY FIRST 20 RECORDS

fo se

      26 RECORDS MATCHING LIMIT COMMAND
     TYPE DI 1-20 TO DISPLAY FIRST 20 RECORDS

gt 1979

      20 RECORDS MATCHING LIMIT COMMAND
     TYPE DI 1-20 TO DISPLAY THE RECORDS
```

Figure 4.

te science

5944 RECORDS MATCHED THE SEARCH
TYPE DI 1-20 TO DISPLAY FIRST 20 RECORDS (or)
Use AND command with additional WORD(s) or LIMITING command to reduce results

Figure 5.

```
Screen 001 of 006
NMBR DATE  --------------------TITLE--------------------  -------AUTHOR-------
0001 1975  Access mechanisms and data structure support   Curtice, Robert M.
0002 1983  Applied database machine architecture /
0003 1976  Applied data management /                      Meadow, Charles T.
0004 1977  An assessment of current data base trends /    Ross, Ronald Grierso
0005 1982  The automatic revision of storage structures   Gustavson, Fran Goer
0006 1974  CODASYL data description language : journal    Conference on Data S
0007 1978  The Codasyl approach to data base management   Olle, T. William.
0008 1976  Communications and data management /           Walton, Thomas F.
0009 1975  Computer data-base organization.               Martin, James,
0010 1975  Computer data management and data base techno  Katzan, Harry.
0011 1976  Computer systems organization and programming  Katzan, Harry.
0012 1977  Computer data-base organization /              Martin, James,
0013 1978  A comparative study of very large data bases   Hill, Edward,
0014 1981  Computer-assisted data base design /           Hubbard, George U.
0015 1980  Control in a data base environment /           Perry, William E.
0016 1981  Creating and planning the corporate data base  Cohen, Leo J.
0017 1975  Data base systems :  a practical reference /   Palmer, Ian R
0018 1976  The database administrator /                   Lyon, John K.
0019 1976  Data base design methodology : a logical fra   Jones, John Paul.
0020 1976  Data base organization for data management /   Ghosh, Sakti P.
----Type DI NMBR(s) to display specific records / DI to continue thru the list
```

Figure 6.

```
su advertising #

     937 RECORDS MATCHED THE SEARCH
     TYPE DI 1-20 TO DISPLAY FIRST 20 RECORDS


Screen 001 of 001              Record 0001 of 0937 PUL
LOCTN: GENERAL COLLECTION HF5823 .W42 1959
AUTHR: Watkins, Julian Lewis.
TITLE: The 100 greatest advertisements: who wrote them and what they did.
EDITN: [2d rev. ed.]
PUBLR: New York, Dover Publications [1959]
DESCR: 232 p. illus. 28 cm.
SUBJT: Advertising.


ca HF5823

     243 RECORDS MATCHED THE SEARCH
     TYPE DI 1-20 TO DISPLAY FIRST 20 RECORDS
```

Figure 7.

```
co child art

     NO RECORDS MATCHED THE SEARCH

au child julia

      6 RECORDS MATCHED THE SEARCH
     TYPE DI 1-6 TO DISPLAY THE RECORDS


Screen 001 of 001
NMBR DATE  --------------------TITLE--------------------  -------AUTHOR-------
0001 1968  The French chef cookbook.                      Child, Julia.
0002 1982  From Julia Child's kitchen /                   Child, Julia.
0003 1978  Julia Child & company /                        Child, Julia.
0004 1979  Julia Child & more company /                   Child, Julia.
0005 1970  Mastering the art of French cooking.           Child, Julia.
0006 1983  Mastering the art of French cooking /          Child, Julia.
----Type DI NMBR(s) to display specific records
```

Figure 8.

```
te buried treasure

      14 RECORD MATCHES AFTER TERM BURIED
       1 RECORDS MATCHED THE SEARCH
      TYPE DI 1   TO DISPLAY THE RECORD


Screen 001 of 001                Record 0001 of 0001 PUL
LOCTN: GENERAL COLLECTION G525 .M347
AUTHR: Marx, Robert F., 1933-
TITLE: Buried  treasure of the United States :  how and where to
          locate hidden wealth / Robert F. Marx.
PUBLR: New York : McKay, c1978.
DESCR: 401 p., [8] leaves of plates : ill. ; 24 cm.
SUBJT: Treasure-trove--United States.
SUBJT: Treasure-trove.
```